Notice of Allowability	Application No.	Applicant(s)	
	10/769,371	ADAMS ET AL.	
	Examiner	Art Unit	
	Dieu-Minh Le	2114	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *communication filed on 9/28/07 and Interview on 11/08/07*.

2. ☒ The allowed claim(s) is/are *1-20*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

DIEU-MINH LE
PRIMARY EXAMINER

1. This office action is in response to the communication filed on 09/28/2007 and the Interview on 11/08/2007.

2. Claims 1-20 are allowable over the prior art of record.

3. An Examiner's Amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 C.F.R. § 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the Issue Fee.

EXAMINER'S AMENDMENT:

IN THE CLAIMS:

Please replace all prior versions of claims in the application with the current listing in the **ATTACHMENT:**

4. Authorization for this Examiner's Amendment was given in a telephone interview with Mr. John P. Wagner, Registration No. 35,398 on 11/08/2007.

5. Claims 1-20 are allowable over the prior art of record.

The following is an Examiner's Statement of Reasons for Allowance:

After careful consideration of Applicant's Remarks filed on 09/28/07, the Arguments [pages 8-16] are deemed to be persuasive. With respect to claims 1, 7, and 15; the Examiner asserts that the novelty of the claims, when read as a whole, are the program code/logic/route path to determine a particular route path from the plurality of route paths by applying an algorithm to one or more numerical values associated with a particular address that is one of the plurality of addresses.

Any comments considered necessary by applicant must be submitted no later than the payment of the Issue Fee and, to avoid processing delays, should preferably **accompany** the Issue Fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dieu-Minh Le whose telephone number is (571) 272-3660. The examiner can normally be reached on Monday - Thursday from 8:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Scott Baderman can be reached on (571)272-3644. The Tech Center 2100 phone number is (571) 272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DIEU-MINH THAI LE
PRIMARY EXAMINER
ART UNIT 2114

DML.
11/10/2007

ATTACHMENT:

LISTING OF CLAIMS:

1. (Currently Amended) At least one machine-readable storage media comprising:

first program code executable on a processor to determine a route path through a gateway to a storage area network (SAN[[M]]) for each of a plurality of addresses of an interface of a server, the first program code to determine a particular route path from the plurality of route paths by applying an algorithm to one or more numerical values associated with a particular address that is one of the plurality of addresses; and

second program code executable on a processor to configure the gateway with the particular route path.

2. (Currently Amended) The storage media of claim 1, wherein each of the addresses comprises an interface card number, a target number, and a logical unit number (LUN) and wherein the first program code determines the route path for each of the addresses by applying the algorithm to the interface card number, the target number, and the LUN.

3. (Currently Amended) The storage media of claim 2, wherein the first program code determines the route path by summing the interface card number, the target number and the LUN, and taking a modulo of the sum.

4. (Currently Amended) The storage media of claim 2, wherein the first program code takes a modulo two of the sum.

5. (Currently Amended) The storage media of claim 4, wherein the second program code configures the gateway to route to a first interface of the gateway if the modulo two of the sum is equal to zero, and otherwise configures the gateway to route to a second interface of the gateway.

6. (Currently Amended) The storage media ~~system~~ of claim 1, further comprising third program code executable on a processor to determine the plurality of addresses based on configuration information of the server.

7. (previously presented) A system comprising:

a server including a first interface;

a first gateway communicatively coupled to the first interface, the first gateway comprising a first gateway

interface to a storage area network (SAN), a second gateway interface to the SAN, and first configuration information, the first gateway to route a network communication received from the first interface, based on the first configuration information, to one of the first gateway interface and the second gateway interface;

logic, communicatively coupled to the first gateway, to determine a route path through the first gateway for each of a plurality of addresses of the first interface, the logic to determine a particular route path by applying an algorithm to one or more numerical values associated with the particular address from the plurality of addresses and to configure the first configuration information with the particular route path, wherein the particular route path is one of the route paths determined for the plurality of addresses; and

a storage device comprising a first storage device interface and a second storage device interface, the first storage device interface communicatively coupled to the first gateway interface and the second storage device interface communicatively coupled to the second gateway interface.

8. (original) The system of claim 7, wherein the server further comprises a second interface and the system further comprises:

a second gateway, communicatively coupled to the second interface and to the logic, the second gateway comprising a third gateway interface to the SAN communicatively coupled to the first storage device interface, a fourth gateway interface to the SAN communicatively coupled to the second storage device interface, and second configuration information, the second gateway to route a network communication received from the second interface based on the second configuration information to one of the third gateway interface and the fourth gateway interface; and

wherein the logic is further to determine a second route path through the second gateway for each of a plurality of addresses of the second interface by applying the algorithm to one or more numerical values associated with the address of the second interface, and to configure the second configuration information with the second route paths.

9. (original) The system of claim 7, wherein each of the addresses comprises an interface card number, a target number, and a logical unit number (LUN) and wherein the logic determines

the route path for each of the addresses by applying the algorithm to the interface card number, the target number, and the LUN for each of the addresses.

10. (original) The system of claim 9, wherein the logic determines the route path for each of the addresses by summing the interface card number, the target number and the LUN, and taking the modulo two of the sum.

11. (original) The system of claim 7, further comprising:
a first switch, communicatively coupled between the first gateway interface and the first storage device interface, the first switch to route network communications received from the first gateway interface to the first storage device interface;

a second switch, communicatively coupled between the second gateway interface and the second storage device interface, the second switch to route network communications received from the second gateway interface to the second storage device interface.

12. (original) The system of claim 7, wherein the storage device comprises a disk array.

13. (original) The system of claim 7, wherein the first gateway includes a Fibre Channel to Small Computer Systems Interface (SCSI) converter.

14. (original) The system of claim 7, wherein the first interface is a SCSI card.

15. (original) A method comprising:

determining a first address of an interface of a server and a second address of the interface of the server;

determining a first route path for the first address by applying an algorithm to one or more numerical values associated with the first address;

determining a second route path for the second address by applying the algorithm to one or more numerical values associated with the second address; and

configuring a gateway between the interface and a storage area network (SAN) with the first route path and the second route path.

16. (original) The method of claim 15, wherein determining a first route path comprises applying the algorithm to an

interface card number, a target number and a logical unit number (LUN) associated with the first address.

17. (original) The method of claim 16, wherein applying the algorithm comprises summing the interface card number, the target number and the LUN, and taking the modulo two of the sum.

18. (original) The method of claim 15, wherein:

the first address comprises a first logical unit number of a first target of the interface and the second address comprises a second logical unit number of the first target;

determining the first route path comprises determining a route path to the first interface of a storage device; and

determining the second route path comprises determining a route path to the second interface of a storage device.

19. (original) The method of claim 15, further comprising:

receiving a third address of a second interface of the server;

determining a third route path for the third address by applying the algorithm to one or more numerical values associated with the third address; and

configuring the gateway with the third route path.

20. (original) The method of claim 15, wherein determining a first route path comprises determining an interface of the gateway to route communications received from the first address.